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S. D.—76. [This leaflet is distributed only with the seeds to which it relates.]

United States Department of Agriculture,

BUREAU OF PLANT INDUSTRY,

New and Rare Seed Distribution,

WASHINGTON, D. C.

MILLET.

OBJECT OF THE DISTRIBUTION.—The distribution of new and rare seeds has for its object the dissemination of new and rare crops, improved strains of staple crops, and high-grade seed of crops new to sections where the data of the Department indicate such crops to be of considerable promise. Each package contains a sufficient quantity for a preliminary trial, and where it is at all practicable the recipient is urged to use the seed for the production of stocks for future plantings. It is believed that if this practice is followed consistently it will result in a material improvement in the crops of the country.

Please make a full report on the inclosed blank regarding the results obtained with the seed.

INTRODUCTION.

This group of millet (*Chaetochloa italica*) is widely known as foxtail millet, and it includes most of the varieties commonly used for hay or forage purposes. They are grown throughout the United States, very largely as catch crops. These millets are extremely adaptable, both as to climate and soil. The quality of hay produced is rather inferior, especially if allowed to become too ripe before it is cut. No danger is experienced in feeding it to either cattle or sheep, but instances of unfavorable results when fed to horses are numerous. The hay is slightly laxative and also acts as a diuretic, its effect on the kidneys being particularly noticeable in horses. Hay intended for feeding horses should be cut before the seed has formed; such hay is more palatable and is not so injurious.

Millets have a comparatively low water requirement, but can not endure long periods of drought, probably because of their rather shallow root system. They are much grown in the semiarid regions, and their ability to make a crop in such localities seems largely due to their short season of growth, which often allows them to evade dry spells.

Millet is said to be "hard on the soil," and the following crop, especially if it is small grain, will in most cases be less productive than where grown following corn or the small grains. This effect arises largely from the fact that millet has an intensive root system and feeds very heavily on the upper 6 or 8 inches of soil, leaving the

supply of available plant food and moisture greatly depleted in this area.

Recommendations in regard to seeding, harvesting, and feeding apply to all the varieties in this group.

SEEDING AND HARVESTING.

Seeding.—The short season of growth permits considerable latitude in respect to the time of seeding. Millet should not be sown, however, until the ground is warm. This means, ordinarily, about two or three weeks after corn-planting time, which in the Central States would place the earliest planting about the last of May. It can be sown any time between this date and August 1; the last seeding, however, should allow 60 to 70 days of growing season before the normal date of the first killing frost.

The seed bed for millet should be prepared by plowing and repeated harrowing. It can be seeded on cornstalk ground, but the best results are obtained by seeding on spring plowing, especially if care is used to level and compact the seed bed.

Millet can be sown broadcast and harrowed in or planted with a grain drill. When good seed is used 20 to 25 pounds per acre are sufficient, and in the drier sections this can be reduced to 12 or 15 pounds.

Where the season is long, it is often possible to procure a crop of millet after another crop, such as oats, barley, or wheat, has been removed. In such cases the ground may be prepared for seeding by disking. Such double cropping, however, is not a good practice, since it is hard on the land, both crops being surface feeders to a great extent.

One feature which should be borne in mind is to have the ground level after seeding, so that clods and other rough places will not interfere with the mower. This result may be accomplished by rolling or planking the field after it is seeded. Where the rainfall is light or where there is danger from blowing, a harrow should follow the roller to prevent the surface from baking or blowing.

Harvesting.—The foxtail millets cure easily and are handled in the same way as any other hay crop. If the hay is designed for general use, i. e., for feeding both cattle and horses, it should be cut just after blooming; if it is intended for cattle or sheep exclusively it may be allowed to become somewhat more mature and can then be cut when the seed is in the late milk stage. Where a seed crop is the object, millet is best harvested with a grain binder, placed in shocks like bundle grain, and thrashed in the same way. In some sections where millet is being grown for seed the farmers plant it in rows sufficiently far apart to cultivate. This practice gives an especially good quality of seed, but of course requires more labor.

VARIETIES OF FOXTAIL MILLETS.

Among the more prominent foxtail millets are the following cultivated varieties:

Common or Dakota.—This variety is the best known and perhaps the most widely grown of any of the foxtail millets. Common millet is fine stemmed and leafy, with a close, compact seed head in which are inclosed numerous yellow seeds flattened on one side. It is characterized by a short season of growth and produces a fair yield and a good quality of hay. The California and the Gold Mine are heavy-yielding types of the Common or Dakota millet.

Golden or German.—This variety is coarser than the Common millet, with broad leaves and a distinctly lobed seed head, much larger and somewhat more loose than the Common variety. The individual seeds are yellow, like the Common, but smaller and more globular. The season of growth is fully two weeks longer than the Common, and the hay yield is larger, but the quality of the hay is not quite so good.

Hungarian.—This variety possesses a small, compact seed head, with seeds of much the same shape as those of Common millet. The color of the seeds varies from yellow to black or very dark purple, both colors being found in one head. The season of maturity is intermediate between the Common and German varieties, but the yield is practically the same as the Common except in dry climates, where it is apt to be less. It is better suited to the humid conditions of the East. The quality of the hay is first class.

Siberian.—This variety, which was introduced from Russia, is very similar in vegetative characters to the Common millet except that it has orange-colored seed. The season of growth is a few days longer than the Common variety and the yield slightly larger, especially in the semiarid districts. It is a hardy, drought-resistant form, suited to the Dakotas, Montana, Wyoming, Colorado, western Nebraska, and western Kansas.

Kursk.—This is a selected strain of the Siberian millet which was introduced by the United States Department of Agriculture and has been bred in South Dakota for drought resistance, hardiness, and uniformity. It was given the name Kursk from the Province in Russia where it was obtained. It is a dependable millet for the dry regions and is adapted to the same region as the Siberian variety.

Approved:

WM. A. TAYLOR,
Chief of Bureau.

AUGUST 8, 1922.

VARIETIES OF FOXTAIL MILLET.

Among the more prominent foxtail millets are the following cultivated varieties:

Common or Japanese.—This variety is the best known and perhaps the most widely grown of any of the foxtail millets. Common millet is the stemmed and leafy, with a close, compact seed head in which are enclosed numerous yellow seeds flattened on one side. It is characterized by a short season of growth and produces a fair yield and a good quality of hay. The Japanese and the Gold Mine are heavy-yielding types of the Common or Japanese millet.

Golden or Japanese.—This variety is coarser than the Common millet, with broad leaves and a distinctly lobed seed head much larger and somewhat more loose than the Common variety. The individual seeds are yellow, like the Common, but smaller and more globular. The season of growth is fully two weeks longer than the Common, and the hay yield is larger, but the quality of the hay is not quite so good.

Japanese.—This variety possesses a small, compact seed head with seeds of much the same shape as those of Common millet. The color of the seeds varies from yellow to black or very dark purple, both colors being found in one head. The season of maturity is later, and the yield is lower than the Common and Japanese varieties, but the seed is practically the same as the Common except in its climate, where it is not to be used. It is better suited to the humid conditions of the East. The quality of the hay is first class.

Japanese.—This variety, which was introduced from Japan, is very similar in vegetative characters to the Common millet except that it has orange-colored seed. The season of growth is a few days longer than the Common variety and the yield slightly larger, especially in the semiarid district. It is a fairly drought-resistant form, suited to the Japanese, Chinese, and western Kansas, Nebraska, and western Kansas.

Japanese.—This is a selected strain of the Japanese millet which was introduced by the United States Department of Agriculture and has been tried in South Dakota for drought resistance, but has not been successful. It was given the name *Kurotaro* from the Province in Korea where it was obtained. It is a dependable millet for the dry regions and is adapted to the same region as the Japanese variety.

Approved:

W. A. TAYLOR,

Chief of Bureau.

JANUARY 1, 1922